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Drug Induced Birth Defects: Difficult Decisions and Shared Responsibilities

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DRUG INDUCED BIRTH DEFECTS: DIFFICULT DECISIONS AND SHARED RESPONSIBILITIES

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I. INTRODUCTION

There are few personal injuries so emotion-laden as those of a defective newborn. Birth defects trigger feelings of surprise, guilt, and disappointment following an event that has been joyfully anticipated

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as a celebration of life. In times past parents could be expected to adjust to their child's abnormality, recognizing the blessings of life in whatever form and accepting the additional responsibilities that their new child's special needs might present. But in today's litigious environment, shattered expectations can cause tough questions to be asked: What went wrong? Who is to blame? And, inevitably, is somebody legally liable? The frequency of drug use during pregnancy,¹ and the knowledge that some drugs are teratogens,² may focus attention on a drug used by a mother as the possible cause of a newborn's injury.

If it can be shown with a reasonable degree of scientific certainty that a drug ingested by a pregnant woman caused harm to the fetus,³ then the logical conclusion is that the harm could have been avoided through non-ingestion of the drug. The question then becomes whether ingestion of the drug would have been prevented if somebody along the drug distribution chain had made a better decision about exposing the fetus to the risk of harm. This article will examine the decisions made by drug manufacturers, physicians, and pregnant women concerning fetal exposure to risk. Also, given that a fetus is in no position to avoid exposure to risk, this article will query to what degree drug manufacturers, physicians, and pregnant women owe a duty to a fetus to avoid exposure of the fetus to an unreasonable risk of harm.

A timely case-study for the consideration of these issues is the use of the drug isotretinoin,⁴ a significant breakthrough in the treatment

1. See generally Doering & Stewart, *The Extent and Character of Drug Consumption During Pregnancy*, 239 J. A.M.A. 843 (1978); the investigators report that of 168 obstetrical patients monitored during pregnancy, all received at least two different drug products during the prenatal period. *Id.* See also Woodward, Brackbill, McManus, Doering & Robinson, *Exposure to Drugs With Possible Adverse Effects During Pregnancy and Birth*, 9 BIRTH 165 (1982); the investigators report that during pregnancy 64.5 percent of the women in their study took one or more drug products with implicated adverse fetal effects, and that 68 percent of the drug ingredients pregnant women took had never been studied for their effects on the fetus. *Id.*

2. A teratogen is an agent or factor that causes abnormal embryonic development. See, e.g., *Mekdeci v. Merrell Nat. Labs.*, 711 F.2d 1510, 1523 (11th Cir. 1983); *Dow Chemical Co. v. Ruckelshaus*, 477 F.2d 1317, 1320 (8th Cir. 1973). A "teratogenic" drug is one that causes a child to be born with birth defects, and "teratogenicity" is the propensity of a chemical to cause birth defects.

3. This article will generally use the terms "fetus" and "pregnant woman" when the context is pre-birth and the terms "child" and "mother" when the context is post-birth.

4. The commonly used brand name for isotretinoin is Accutane. It is part of a family of chemicals closely related to Vitamin A and appears to work by shutting down production of excess oils under the skin.

of severe, recalcitrant cystic acne. However, it causes birth defects. In spite of strong warnings against the use of isotretinoin during pregnancy, there have been children born with defects due to use of the drug by pregnant women.⁵ The societal question this drug raises is whether its availability should be severely restricted or eliminated in order to assure total protection for everyone. There are alternatives less restrictive than elimination which would require that strong measures be taken by everyone involved with drug distribution and use.⁶ The regulatory challenge presented by isotretinoin is to regulate the drug so that all who need it get it, but with no resulting birth defects. Failing that, a decision must be made whether a small number of tragedies are the unavoidable price of the life-transforming benefits isotretinoin can have for thousands of people.

While well-publicized and currently the focus of significant regulatory attention, the isotretinoin controversy may not serve as an accurate model of decisionmaking regarding fetal risk from maternal medication use. For instance, the teratogenic nature of isotretinoin is well documented and can be easily communicated by one individual to another. But for most drugs which have teratogenic potential, the actual risk is less well known; thus, the risk is less obvious and more difficult to describe to a decisionmaker. Furthermore, the maternal condition isotretinoin treats is not a serious threat to physical health, so a decision to forego drug use during pregnancy is less detrimental to a pregnant woman than would be the decision to forego use of a drug that is necessary to treat a serious physical condition. Never-

5. As of April 1988, there were 62 official reports of birth defects possibly attributed to isotretinoin. A government memorandum speculated that the true number could be much higher, but the manufacturer of isotretinoin refuted the data in the memorandum as inflammatory and essentially meaningless. See *FDA Attributes Hundreds of Birth Defects to Accutane*, 1988 PHARMACEUTICAL LITIGATION REPORTER 3, 389-92.

6. For example, the prescribing of isotretinoin could be limited to certified physicians, and the dispensing of isotretinoin could be limited to certified pharmacies. However, the FDA has never restricted the writing of prescriptions by physicians since this is a matter of state law. Moreover, one attempt by the agency to restrict the dispensing of a drug to certain pharmacies was judicially rejected. See, *American Pharmaceutical Ass'n v. Weinberger*, 377 F. Supp. 824 (D.D.C. 1974), *aff'd*, *American Pharmaceutical Ass'n v. Matthews*, 530 F.2d 1054 (D.C. Cir. 1976). Nevertheless, it may be possible for the FDA to specify circumstances under which an approved drug may be prescribed. See Shapiro, *Limiting Physician Freedom to Prescribe a Drug for Any Purpose: The Need for FDA Regulation*, 73 NW. U. L. REV. 801 (1978).

theless, regulatory reaction to the isotretinoin problem serves as an example of what can be done to reduce teratogenic risks, and it invites an analysis of whether similar regulatory activity should be undertaken for other potentially teratogenic medications.

A. Regulatory Policy

Because the risks of harm from drug use are a significant concern to the American public, the federal Food and Drug Administration (FDA) makes decisions that may result in a drug being kept off the market (direct regulation)⁷ or may require the disclosure of specified information when a drug is marketed (indirect regulation).⁸ Decision-making in drug regulation is difficult due to the unique character of the drug product: drugs are not only injury-producing but also injury-reducing. The unavailability of a drug may pose a greater threat to public health and safety than the potential toxicity of the drug itself.⁹ Also, frequently it is not a characteristic of the drug but an idiosyncratic reaction of the user that leads to unforeseeable damage as the result of drug use.

7. The pre-marketing approval requirement was established in 1938 through passage by Congress of the federal Food, Drug and Cosmetic Act. 21 U.S.C. § 301 (1982). This Act introduced the requirement that "adequate tests" demonstrate that a new drug is safe for its intended use. There was no express provision for effectiveness testing although efficacy was in fact considered for drugs that were known to have serious side effects or were intended to treat life-threatening diseases. *Id.* Amendments in 1962 introduced the requirement that "substantial evidence" show that a drug is both safe and effective for its intended purpose. 21 U.S.C. § 360b(d) (1982). Amplification through rulemaking of this statutory scheme has caused one commentator to describe the system as "the most detailed regulatory system for the protection of human subjects the world has ever seen." Cooper, *Untitled Remarks*, 37 *FOOD DRUG COSM. L.J.* 49, 59 (1982). For a comprehensive discussion of the drug approval process, see generally *NEW DRUG DEVELOPMENT: A REGULATORY OVERVIEW* (M. Mathieu ed. 1987).

8. One method of regulating the safety of drugs is found in the misbranding provisions of the Act which state that a drug will be deemed misbranded "[i]f it is dangerous to health when used in the dosage or with the frequency or duration prescribed, recommended, or suggested in the labeling thereof." 21 U.S.C. § 352(j) (1972). For many drugs, labeling is monitored through the drug approval process. The approval of a new drug application is based on the content of the labeling submitted with the application. For a discussion of the consequences of regulating through information disclosure, see generally S. HADDEN, *READ THE LABEL: REDUCING RISK BY PROVIDING INFORMATION* (1986).

9. For a period during the 1970's, the detriment of unavailable drugs was considered to be a significant policy issue, with some people suggesting that the drug approval process should be hastened by being less demanding about proof of safety or efficacy. See Kennedy, *A Calm Look at "Drug Lag,"* 239 *J. A.M.A.* 423 (1978).

For prescription drugs¹⁰ the system of distribution includes two layers of risk evaluation. Based upon information provided by the manufacturer, the FDA first determines whether a drug's general benefits exceed its general risks. If the drug is approved, then a second risk evaluation takes place in which a physician determines for each individual patient whether the benefit exceeds the risk.¹¹ The first level of risk evaluation takes into account scientific data with only limited opportunity to consider human values, while the second level relates more specifically to the user's lifestyle and attitude toward risk. The system relies heavily upon the ability of scientists to express the possibility of harm as risk¹² and on the ability of regulators, physicians, and patients to interpret that abstract expression of risk in light of the multitude of other factors presented by the real world.¹³

Decisions about exposure to drug risks have greater validity as the certainty of available scientific information increases. Unfortunately, while decisionmakers search for certainty to form the basis of a solid decision, scientists thrive on uncertainty, for every scientific "fact" is open to challenge in the face of new or better information. Because today's decisionmakers cannot wait the years or decades it would take to find the ultimate truth, as scientists would prefer, regulators have developed a framework for managing scientific uncertainty. Within this framework, standards are developed regarding the degree of risk society deems acceptable, procedures are outlined for qualified experts

10. A prescription drug is a "drug intended for use by man which . . . because of its toxicity or other potentiality for harmful effect, or the method of its use, or the collateral measures necessary to its use, is not safe for use except under the supervision of a practitioner licensed by law to administer such drug. . . ." 21 U.S.C. § 353(b)(1)(B) (1972). The prescription requirement has been criticized in recent years as being overly broad in its current form, sometimes serving as a disincentive for patients to acquire information necessary to make a decision about their own treatment. See Mitchell, *Deregulating Mandatory Medical Prescription*, 12 AM. J. LAW & MED. 207 (1987).

11. A drug is approved as safe not because it is harmless but because its benefits outweigh its risks. The physician must decide which treatment among those available will do more good than harm for a particular patient. See McMahon, *How Safe Should Drugs Be?*, 249 J. A.M.A. 481 (1983). Patients themselves are involved in risk analysis in varying degrees. See *infra* note 99 and accompanying text.

12. See generally U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES TASK FORCE ON HEALTH RISK ASSESSMENT, *DETERMINING RISKS TO HEALTH* (1986).

13. These other factors include workplace environment, economics and spousal support. A pregnant chemical factory worker whose husband is unemployed may not be able to follow medical advice to take nine months of maternity leave if in doing so there is no way to feed, clothe, and house herself and the fetus she carries.

to follow in evaluating risk, and the uncertainty factor is accounted for by recognizing the need for qualified experts to subjectively exercise informed judgment that is properly guided and carefully reviewed.

The drug regulatory system works well, but it is not perfect. A number of drugs¹⁴ have survived the arduous approval process only to be withdrawn from the market within months when unanticipated toxicities materialized after exposure in a large population of users. Public confidence in the regulatory assurance of safety has been weakened by highly publicized experiences with diethylstilbestrol (DES), the swine flu vaccine, and the Dalkon Shield. At the same time, faith in technology generally has been challenged by technological disasters such as the space shuttle and Three Mile Island. The predictable public response has been to question whether decisions are being made appropriately by regulators and to suggest that "full disclosure" of available information would permit product users to make their own decisions or to critically evaluate decisions made by regulators.¹⁵

While full disclosure is an appealing concept, it does not fit well into the overall framework of drug regulation because of the underlying scientific uncertainty. Disclosure of documented scientific findings can facilitate a decision, but disclosure of uncertainty can impede

14. The drugs are ticrynafen (trade name Selacryn), benoxaprofin (trade name Oralflex), zomepirac (trade name Zomax), and nomefensine (trade name Merital). Each of these drugs withstood careful scrutiny by the FDA during lengthy clinical trials to assess safety and efficacy, but once they were approved and widely distributed, adverse effects began to appear.

15. The full disclosure requirements of drug labeling are really not what they appear to be. A general statement of the policy is as follows:

In approving the labeling the Food and Drug Administration must determine both that the content is entirely truthful, and that it omits no information pertinent to the safe and effective prescribing of the drug by the physician. Congress intended the labeling to be a full, complete, honest, and accurate appraisal of the important facts that have reliably been proved about the drug.

Legal Status of Approved Labeling For Prescription Drugs, 37 Fed.Reg. 16,504 (1972) (to be codified at 21 C.F.R. § 130). The intent is not to require disclosure of all information, but only that which has been reliably proved. While the paternalistic notion that patients (either themselves or through their physicians) do not need access to all information about a drug they use has the potential to deny the right to autonomous decision making, it is important to recognize that warnings themselves may be costly. "One must warn with discrimination since the consumer is being asked to discriminate and to react accordingly. The story of the boy who cried wolf is an analogy worth contemplating when considering the imposition of a warning in a case of rather marginal risk." Twerski, *The Use and Abuse of Warnings in Product Liability - Design Defect Litigation Comes of Age*, 61 CORNELL L. REV. 495, 514 (1976).

decisions, particularly if the decisionmaker faces the prospect of being held responsible for a bad decision based on uncertain information. Uncertainty is a particular problem in the area of teratogenicity where moral considerations prohibit comparative studies in humans. Epidemiological studies provide useful scientific data, but they can never rule out the possibility that a substance may cause birth defects.¹⁶ The burden of uncertainty weighs heavily on those who make decisions about fetal exposure to harm. Because drug manufacturers, physicians, and pregnant women each have a distinct decisionmaking role, they share this burden. To the extent that the law recognizes a right of recovery by a child born with anomalies caused by *in utero* exposure to a drug, it is important that the law also recognize the character of the decisionmaking responsibility of those who could have reduced fetal exposure to the risk of harm and insure that regulatory policy facilitates the types of decisions that must be made.

B. *Liability for Prenatal Injury*

A threshold consideration in any discussion of legal liability for fetal harm is the lengthy line of cases concerning liability for prenatal injury. The initial case is *Dietrich v. Inhabitants of Northampton*,¹⁷ which established in 1884 that there can be no recovery for injuries suffered by a child *en ventre sa mere*.¹⁸ Over the next several decades, the following justifications of the *Dietrich* rule emerged: the possibility of parental liability;¹⁹ absence of a duty to an unborn child because it is part of its mother;²⁰ danger of spurious or fraudulent claims;²¹ and difficulties in proving causation.²²

In 1946, a new trend began with *Bonbrest v. Katz*,²³ which held that a child born alive may recover for injuries suffered before birth

16. See *infra* notes 64-65, and accompanying text.

17. *Dietrich v. Inhabitants of Northampton*, 138 Mass. 14 (1884).

18. *Id.* *En ventre sa mere* is an oft used French phrase which translates as "in its mother's womb." BLACK'S LAW DICTIONARY 479 (5th ed. 1979). It is preferred by the judiciary over the synonymous phrase, "*in utero*," which is commonly used in the medical field.

19. *Allaire v. St. Luke's Hosp.*, 184 Ill. 359, 56 N.E. 638 (1900).

20. *Drobner v. Peters*, 232 N.Y. 220, 133 N.E. 567 (1921).

21. *Stanford v. St. Louis-San Francisco Ry.*, 214 Ala. 611, 108 So. 566 (1926), *rev'd*, *Husky v. Smith*, 289 Ala. 56, 265 So. 2d 596 (1972), *rev'd*, *Wolfe v. Isbell*, 291 Ala. 327, 280 So. 2d 758 (1973).

22. *Magnolia Coca Cola Bottling Co. v. Jordan*, 124 Tex. 347, 78 S.W.2d 944 (1935).

23. *Bonbrest v. Kotz*, 65 F. Supp. 138 (D.D.C. 1946).

if the fetus was viable at the time of injury. The *Bonbrest* rule was justified as a legal reflection of medical progress and as a way to provide a remedy for an obvious wrong. This rule, or variants of it, have now been adopted in all jurisdictions.²⁴

Recent litigation based on the *Bonbrest* rule has become complex, both conceptually and semantically. Distinctions are based on whether the lawsuit is brought on behalf of the parents or child and on whether the child was born healthy or impaired. A "wrongful pregnancy" action is brought by the parents of a healthy, but unplanned child, where the complaint alleges pre-conception negligence by a physician, pharmaceutical manufacturer or pharmacist regarding a contraceptive procedure or medication that did not work.²⁵ In a "wrongful birth" case, the parents of a deformed or handicapped child are suing for alleged post-conception negligence of a physician or other party whose failure to act prevented the parents from exercising their option to terminate the pregnancy.²⁶ A "wrongful life" claim is brought by or on behalf of a child who suffers an impairment,²⁷ this action being difficult to distinguish from the parents' wrongful birth claim, except for the virtual unanimous rejection by the courts of the wrongful life claim. The pragmatic reason for courts having spurned this theory is the difficulty of rationally determining whether the plaintiff has suffered a legally cognizable injury by having been born. Furthermore, as a matter of policy, courts have steered away from a theory that assumes nonexistence is desirable.²⁸

Acceptance of the wrongful life theory in a drug-induced birth defect case first occurred in *Harbeson v. Parke-Davis Inc.*,²⁹ the court overcoming the concerns expressed in previous cases. In an analysis

24. See *Huskey v. Smith*, 289 Ala. 52, 265 So. 2d 596 (1972). The Alabama Supreme Court acknowledged that it was the final jurisdiction to recognize a cause of action for prenatal injuries.

25. See *Hartke v. McKelway*, 526 F. Supp. 97 (D.D.C. 1981), *cert. denied*, 464 U.S. 983 (1983), *aff'd*, 707 F.2d 1544 (D.C. Cir. 1983).

26. See *Turpin v. Sortini*, 31 Cal. 3d 220, 643 P.2d 954, 182 Cal. Rptr. 337 (1982).

27. See *Curlender v. Bio-Sciences Laboratories*, 106 Cal. App. 3d 811, 165 Cal. Rptr. 477 (1980).

28. For an insightful discussion of judicial policy see Morreim, *The Concept of Harm Reconceived: A Different Look at Wrongful Life*, 7 L. & PHILOSOPHY 3 (1988).

29. *Harbeson v. Parke Davis Inc.*, 98 Wash. 2d 460, 656 P.2d 483; *Harbeson v. Parke Davis, Inc.*, 746 F.2d 517 (9th Cir. 1984). There are two separate opinions in *Harbeson*. The federal opinion is the liability case while the state opinion answers certified questions from the federal court.

of this case, Professor Furrow used the phrase “diminished life,”³⁰ which he had coined earlier.³¹ The concept of diminished life, as suggested by Furrow, relates to the difference between a defective child who claims that it would be better not to have been born because accurate genetic counseling would have led to an abortion, as opposed to a defective child who claims that it would be better to have been born without the defect because counseling regarding teratogenicity would have led to a drug not being used by the mother. In the case of the first child, the defendant’s alleged negligence is passive, it being a failure to act to prevent the birth of a child whose defect was not caused by the defendant. In the case of the second child, the defendant’s alleged negligence is active. By distributing or prescribing a drug without an adequate warning, the action of the defendant has caused the child’s defect. Because damages are clear and the value of life is not questioned, diminished life as a theory of recovery is free of the pragmatic and policy concerns that attend the wrongful life action. Thus, a court need not decide whether nonexistence is better than impaired existence.

Yet, Professor Furrow falls short of fully developing the theory implicit in the phrase “diminished life.” His logic closely follows that of the court in *Harbeson*, which relied heavily on prior case law in the areas of genetic counseling and prenatal testing.³² However, the facts in *Harbeson* differ from those of the typical genetic counseling or prenatal testing case,³³ specifically the facts relating to the nature of the decision to be made by the woman who is to bear the possibly defective child. In a drug induced birth defect case like *Harbeson*, the woman may choose not just to avoid or terminate pregnancy, but may instead choose to forego use of the drug during the period of pregnancy when the developing fetus is at risk. Because the facts in *Harbeson* are briefly summarized by the court, it is difficult to determine which decision the mother would likely have made.³⁴

30. FUITOW, *Impaired Children and Tort Remedies: The Emergence of a Consensus*, 11 LAW, MED. & HEALTH CARE 148 (1983).

31. FUITOW, *Diminished Lives and Malpractice: Courts Stalled in Transition*, 10 LAW, MED. & HEALTH CARE 100 (1982).

32. *Harbeson*, 98 Wash. 2d 460, 656 P.2d 483.

33. *Id.*

34. The federal court opinion concerning liability and the state court opinion concerning certified

In 1970, Mr. and Mrs. Harbeson conceived their first child, a healthy child, even though in December 1970 Mrs. Harbeson was given the drug Dilantin for epilepsy, which she took for the remainder of her pregnancy.³⁵ In the ensuing year, several other anticonvulsants were prescribed for Mrs. Harbeson, which were discontinued after she suffered adverse reactions. When the Harbesons contemplated having more children, they consulted three physicians, all of whom indicated that *in utero* exposure to Dilantin could cause cleft palate, which could be surgically repaired, and hirsutism, a temporary condition of excess hair.³⁶ The Harbesons had two more children while Mrs. Harbeson was taking Dilantin, and both children were born with "Fetal Hydantoin Syndrome" (FSH), the risk of which the Harbesons had not been told.³⁷ The issue in their legal action was the adequacy of the information they were given and their right to act upon that information.³⁸ The court assumed that the Harbesons' position was that they would not have had more children had they been told about the risk of FSH, and this may be a valid assumption.³⁹ But the Harbesons may instead have wanted to make the decision not to use the drug and have children. They knew that not all children exposed to Dilantin *in utero* suffer birth defects, as their first child was healthy despite exposure. They also knew that there were alternatives to Dilantin because Mrs. Harbeson had tried them. Perhaps the adverse effects of one of those alternatives that previously had been rejected would have been acceptable during pregnancy if it lowered the risk of birth defects. In the analysis of a case where the primary thrust is the right to make an informed decision, this is a consideration that should not be disregarded.

questions have different factual summaries. To create the most useful fact statement, it is necessary to extract certain facts from each opinion.

35. *Harbeson v. Parke Davis Inc.*, 98 Wash. 460, 656 P.2d at 486 (1984).

36. *Harbeson*, 746 F.2d at 519.

37. FSH children suffer from mild to moderate growth deficiencies, mild to moderate developmental retardation, wide-set eyes, lateral ptosis (drooping eyelids), hypoplasia of the fingers, small nails, low-set hairline, broad nasal ridge, and other physical and developmental defects. *Harbeson*, 98 Wash. 2d at 463, 656 P.2d at 486.

38. Both the state and federal opinions characterize the issue as one of "informed consent." *Id.* at 469, 656 P.2d at 490; *Harbeson*, 746 F.2d at 522.

39. "The Harbesons consulted the doctors to decide if they should have additional children, not to decide whether Mrs. Harbeson should terminate her treatment." *Harbeson*, 746 F.2d at 525.

Diminished life, as recognized by Furrow and developed through the facts of *Harbeson*, is an attractive alternative to wrongful life in a case where liability for prenatal injury is based on inadequate warning that a drug may cause birth defects. Where the avoidance of a risk will result in a healthy child, materialization of that risk through the absence of a warning clearly reduces the quality and value of a life that would have been undiminished but for the failure to warn. Therefore, pragmatic and policy concerns that may have been a barrier to plaintiffs in genetic counseling or prenatal testing cases should pose no problem when a prenatal injury is allegedly due to exposure to a drug.

C. *Fetal Rights*

Legal recognition of the fetus as an entity with its own rights occurred first in property law where the fetus was given the status of a person solely for the purpose of inheritance and subject to the condition that it later be born alive.⁴⁰ The live birth requirement has also been incorporated into criminal statutes, many of which recognize fetal existence but impose criminal penalties for harm to the fetus only after the victim has been born.⁴¹ Adherence to a live birth requirement limits the right of a fetus because there is no recognition of the fetus as separate from the woman prior to birth. In this regard, the early cases in property law and criminal law are more a recognition of the woman's rights during pregnancy than of fetal rights.

Until recently the medical view of the fetus was, likewise, significant only with respect to the woman's pregnancy. But technological advancements now make it possible to view the fetus as a patient separate from the pregnant woman, with numerous fetal conditions being amenable to treatment.⁴² Furthermore, there have been legal conflicts resulting in recognition that an unborn child has the right

40. See, e.g., *Medlock v. Brown*, 163 Ga. 520, 136 S.E. 551 (1927); *Christian v. Carter*, 193 N.C. 537, 137 S.E. 596 (1927). But see *In re Peabody*, 5 N.Y.2d 541, 158 N.E.2d 841, 186 N.Y.S.2d 265 (1959) (holding that a fetus is not a person until it sees the light of day).

41. See, e.g., *People v. Greer*, 79 Ill. 2d 103, 402 N.E.2d 203 (1980); *Keeler v. Superior Court*, 2 Cal. 3d 619, 470 P.2d 617, 87 Cal. Rptr. 481 (1970).

42. See Robertson, *The Right to Procreate and In Utero Fetal Therapy*, 3 J. LEGAL MED. 333 (1982).

to protection when the woman carrying the child refuses a blood transfusion⁴³ or when she refuses to consent to delivery by cesarean section.⁴⁴ These developments have the unfortunate potential of placing a fetus and a pregnant woman in the position of adversaries, where the rights of each are balanced against the other.

However, the precise nature of fetal rights has not yet clearly evolved through the litigation process. Since a popular view of the concept of duty is that legal duties of one party correspond with rights of the other party, a determination of the rights of the fetus is a step toward recognizing the duties owed to a fetus by a drug manufacturer, caregiver, or pregnant woman. Just as the existence of a right can create a duty, the character of a right can shape the framework of a duty.

One short-lived judicial characterization of fetal rights was referred to as the right "to be born as a whole, functioning human being."⁴⁵ This overly broad claim was later rejected by a higher court in the same jurisdiction.⁴⁶ A somewhat less-encompassing right has been referred to as "a legal right to begin life with a sound mind and body."⁴⁷ While this right may be fundamental, if it exists, it cannot be absolute. It is essentially an argument for the right to perfect health, which may be considered a moral right, but which has not been recognized under the law.⁴⁸ It is an argument for the right to a risk-free *in utero* existence. But a fetus can have no such right. If a fetus is life, then the risks of living accompany that status. If a fetus is not life, then there are no rights. When the fetus is considered to be a patient, then the greatest right it can have is the right to careful consideration of risks and benefits prior to a treatment decision.

A perspective on fetal rights that is consistent with medical principles and that helps clarify duties to the fetus in a drug exposure

43. See *Raleigh Fitkin-Paul Morgan Memorial Hosp. v. Anderson*, 42 N.J. 421, 201 A.2d 537 (1964).

44. See *Jefferson v. Griffin Spalding Hosp. Auth.*, 247 Ga. 86, 274 S.E.2d 457 (1981).

45. *Park v. Chessin*, 60 A.D.2d 80, 87-89, 400 N.Y.S.2d 110, 114 (1977).

46. *Becker v. Schwartz*, 46 N.Y.2d 401, 386 N.E.2d 807, 413 N.Y.S.2d 895 (1978).

47. *Smith v. Brennan*, 31 N.J. 353, 364, 157 A.2d 497, 503 (1960).

48. The law has never recognized that a patient has the right to a good outcome from medical care. The best that can be expected is that medical practitioners will exercise the degree of skill and care commonly used in the profession.

situation is proposed by Professor Capron within the context of genetic counseling.⁴⁹ Capron argues that a fetus has the right to have its parents decide what is in its best interest.⁵⁰ If one accepts this argument, then effectively the fetus is placed on equal footing with other patients who must have a decision made for them because they lack the capacity to make the decision themselves. Exposure to a drug involves possible benefits and possible detriments that must be weighed when making a decision. Applying Capron's logic to a fetal drug exposure case, it becomes a fetal right to have a decision regarding use of a possibly teratogenic drug made in such a way that consideration is given to the potential detriment to the fetus in light of all relevant factors.

Presumably, the person best able to consider fetal risks is the woman who carries the fetus. Only she can hazard a guess as to how life will be for the child if it is born with an impairment, given the variability of family situations and parenting skills. But her decision can only be as sound as the information she is given, and adequate information must be given by the manufacturer to the physician who can help the woman understand the information and appreciate its significance to her and her fetus.

While the fetus has the right to have a competent decisionmaker consider the fetus' best interests and while the woman is presumed to be the best person to fulfill that responsibility, there may occasionally be a conflict of interest when a drug will benefit only the woman and harm only the child. Where the potential benefit to the woman is slight and the potential harm to the child is great, a logical extension of fetal rights is to impose a duty on physicians to carefully consider fetal risk prior to prescribing and not to prescribe the drug if fetal risk outweighs maternal benefit. Likewise, if pharmaceutical manufacturers and the government agencies that regulate them learn that a drug is routinely being used in a way that is of marginal benefit to women but of significant risk to the fetus, then there is a duty

49. Capron, *Tort Liability in Genetic Counseling*, 79 COLUM. L. REV. 618 (1979).

50. In Capron's analysis, harm emerges not from impaired existence but from breach of the physician's duty of informed consent. *Id.* at 652.

either to expand the warnings in the labeling for the drug or to restrict the distribution of the drug.

II. TERATOGENICITY

A. *Mechanisms of Teratogenicity*

For a drug ingested by a pregnant woman to cause teratogenesis in the fetus, it must cross the placenta from the maternal to the fetal circulation.⁵¹ Once thought of as a barrier, the placenta is now known to permit passage of all but the largest molecules. Most drugs with a molecular weight of less than 600 atomic mass units easily cross the placenta, while molecules greater than 1000 atomic mass units generally do not cross at all. Unfortunately, most drugs have a molecular weight between 250 and 400 atomic mass units.⁵²

Whether a drug will produce teratogenic effects once it has crossed the placenta depends on the susceptibility of the fetus. Timing is a significant factor. Before the eleventh or twelfth day following conception, the organism is not susceptible to teratogenesis in the sense that drug exposure may cause the live birth of a defective child. The effect is all or none. Either the drug will kill the organism, or unaffected cells will overcome the damage to affected cells caused by the drug.⁵³ Beyond that initial phase, the developing organism becomes sufficiently differentiated to survive with damage done to one or several structures or systems. The critical period of organogenesis⁵⁴ is the first trimester of pregnancy, when major anatomical malformations may be induced. Later in pregnancy, exposure of the fetus to a teratogen may cause behavioral, biochemical, or developmental changes.⁵⁵

51. Hays, *Teratogenesis: A Review of the Basic Principles With a Discussion of Selected Agents Part I*, 15 *DRUG INTELLIGENCE & CLINICAL PHARMACY* 444 (1981).

52. Mirkin, *Maternal and Fetal Distribution of Drugs in Pregnancy*, 14 *CLINICAL PHARMACY & THERAPEUTICS* 643 (1973).

53. J. NIEBYL, *DRUG USE IN PREGNANCY* (1988).

54. Organogenesis is defined as the formation of organs during development. *STEADMAN'S MEDICAL DICTIONARY* (24th ed.) (1982).

55. J. NIEBYL, *DRUG USE IN PREGNANCY* 3 (1988).

The specific mechanism of action of teratogenic drugs is not well understood.⁵⁶ However, it is known that there is variation in susceptibility. If a known teratogen were given to a group of pregnant women, the incidence of defects would probably be less than 100%. There are a number of possible explanations for this variation. Maternal smoking or alcohol consumption may induce fetal enzymes to metabolize drugs to either activate or deactivate a drug's teratogenic potential.⁵⁷ Genetic factors can also be responsible for differences in teratogenic susceptibility.⁵⁸ Occupational exposure to certain toxic substances and the concomitant use of other drugs may provoke a potentially teratogenic drug.⁵⁹ Finally, the teratogenic response will increase in frequency and degree as dosage increases.⁶⁰ As knowledge of each of these factors increases, so will the likelihood increase that users of potentially teratogenic drugs will be able to determine the probability that their child will suffer the teratogenic effect based on the presence or absence of other variables. Therefore, the possibility is raised that women who wish to use a potentially teratogenic drug during pregnancy may modify their behavior in some fashion other than avoidance of the drug and still minimize fetal risk.

56. Drugs may act either directly on the embryonic organ that is to be malformed later or indirectly by causing some disturbance in embryonic or maternal tissues that will secondarily induce defective development. See generally H. TUCHMAN-DUPLESSIS, *DRUG EFFECTS ON THE FETUS* (1975). Suspected mechanisms by which teratogenic agents may impinge upon developing cells to change their course are (1) mutation; (2) chromosomal nondisjunction and breaks; (3) mitotic interference; (4) alteration of nucleic acid integrity of function; (5) depletion of precursors and/or substrates needed for biosynthesis; (6) alteration of energy sources; (7) enzyme inhibition; (8) osmolar imbalances; and (9) alteration of cellular membrane characteristics. See J. WILSON, *ENVIRONMENT & BIRTH DEFECTS* (1973).

57. The term "fetal tobacco syndrome" is applied to an infant if: (1) the mother smoked five or more cigarettes a day throughout pregnancy, (2) the mother had no evidence of hypertension during pregnancy, (3) the newborn has symmetrical growth retardation, and (4) there is no other obvious cause of intrauterine growth retardation. See Neiberg, Marks & McLaren, *The Fetal Tobacco Syndrome*, 253 J. A.M.A. 2998-99 (1986). "Fetal alcohol syndrome," while first thought to occur in the offspring of heavy drinkers, is now known to occur with moderate drinkers as well. See Little, Asker & Sampson, *Fetal Growth and Moderate Drinking in Early Pregnancy*, 123 AM. J. EPIDEMIOLOGY 270 (1986).

58. See generally K. Jones, *Teratogens: What We Do and Don't Know About Them*, in *GENETIC ISSUES IN PEDIATRIC & OBSTETRIC PRACTICE* Chap. 6 (M. Kahak ed. 1981).

59. See generally Council on Scientific Affairs, *Effects of Toxic Chemicals on the Reproductive System*, 253 J. A.M.A. 3431 (1985).

60. See generally Jauchau & Faustman-Watts, *Pharmacokinetic Considerations in the Maternal-Placental-Fetal Unit*, 26 CLIN. OBSTETRICS & GYNECOLOGY 379 (1983).

B. Teratogenicity Testing

The background or base level of malformations in humans is high enough to make it difficult to detect an agent contributing only slightly to the occurrence of fetal abnormalities since many other indistinguishable causal factors may also contribute to the appearance of birth defects. Therefore, the recognition of a teratogenic agent in humans is often difficult. Traditional methods of testing drug safety, where clinical trials are conducted comparing the incidence of an adverse effect in exposed and unexposed populations, are severely limited in teratogenicity testing for moral reasons. The result is that the most reliable data come either from animal experiments in which agents are administered at high doses throughout the period of organogenesis or from epidemiologic surveys of women who usually have had low dose exposure at unknown time periods and frequencies. However, it can never be categorically stated that a drug is a non-teratogen; the most that can be said is that effects have not been observed in the studies conducted.⁶¹

The regulatory guidelines for animal reproductive studies issued by the FDA have become standard as a screen for teratogenicity.⁶² Two test species are used, most frequently the rat and rabbit. Pregnant females are dosed daily with the test compound during organogenesis and are killed prior to birth of the offspring. The uterus is removed, and fetuses are examined for external, visual and skeletal anomalies. Different dosages are administered, and a "no observable effect level" is determined. This dose is then divided by a safety factor to determine a safe dose for humans. Unfortunately, while animal tests may reveal teratogenic activity, they do not necessarily correlate well with risks in humans.⁶³

After a drug has been marketed for a period of time, it may be possible to use epidemiologic methods to examine a relationship be-

61. A complete analysis of the significance of teratogenicity testing is included in 1 Drug Product Liability (MB) § 4.

62. See generally Palmer, *Regulatory Requirements for Reproductive Toxicology: Theory and Practice in DEVELOPMENTAL TOXICOLOGY* (C. Kimmel & J. Buelki-Sam eds. 1981).

63. 1 Drug Product Liability (MB) § 4.04(4).

tween exposure and outcome in humans.⁶⁴ Two major methods of epidemiologic studies exist. A cohort study is a prospective method in which groups of individuals who differ in exposure are observed to determine whether they differ in the occurrence of the outcome of interest. The case-control method, on the other hand, is retrospective, focusing on groups that differ in the presence of the outcome variable to determine whether the groups also differ in terms of past exposure. Both methods require extensive statistical analysis to determine whether chance alone can be ruled out as the reason for an association between exposure and outcome.⁶⁵ With both methods, the larger the number of subjects studied, the more reliable the information will be. Thus, only after a significant period of human exposure can there be firm data on which to base a conclusion that a drug poses an appreciable risk of harm to the fetus. In the interim, there is a high level of scientific uncertainty.

C. Teratogenicity Information

The acquisition of information serves little purpose unless the information is conveyed in an orderly fashion to those who need the information to make decisions. In an effort to increase the amount of information available concerning teratogenicity and to standardize the way the information is expressed to facilitate comparisons, the FDA has adopted a letter-coded categorization of drugs based on their risk to the fetus.⁶⁶ The letters A, B, C, D, and X are used, with the fetal risk increasing as the letter goes farther down the alphabet (i.e., "A" equals the least risk, "X" equals the highest risk).⁶⁷ This system

64. See generally O. HEINONEN, D. SLONE, S. SHAPIRO, *BIRTH DEFECTS AND DRUGS IN PREGNANCY* (1977).

65. See Black and Lilienfeld, *Epidemiologic Proof in Toxic Tort Litigation*, 52 *FORDHAM L. REV.* 732 (1984).

66. 21 C.F.R. § 3201.57 (1988).

67. The significance of the categories is as follows:

Category A: Controlled studies in women fail to demonstrate a risk to the fetus in the first trimester (and there is no evidence of a risk in later trimesters), and the possibility of fetal harm appears remote.

Category B: Neither animal-reproduction studies have demonstrated a fetal risk, but there are no controlled studies in pregnant women or animal reproduction studies which have shown an adverse effect (other than a decrease in fertility) that was not confirmed in con-

applies only to prescription drugs, so it is usually included in the labeling directed to the physician, not to the patient.⁶⁸

To determine the level of compliance with the standardized letter-coded system, this author undertook a survey of the labeling for the 100 most frequently prescribed drug products.⁶⁹ The labeling for each of the products was located and reviewed.⁷⁰ The results of the survey are displayed in Table 1. Particularly noteworthy is the fact that only fifty-nine products had labeling that used the standardized system. The labeling of nine products contained no information at all concerning fetal risk. Twenty-two products specifically warned of positive evidence of fetal risk, either by using a lettered category (twelve products) or by extensively explaining the risk (ten products). Only one product was classified as category A; however, thirteen additional products were labeled as category B, which also expresses the absence of a demonstrated fetal risk. The majority of products (fifty-five) were

trolled studies in women in the first trimester (and there is no evidence of a risk in later trimesters).

Category C: Either studies in animals have revealed adverse effects on the fetus (teratogenic or embryocidal or other) and there are no controlled studies in women, or studies in women and animals are not available. Drugs should be given only if the potential benefit justifies the potential risk to the fetus.

Category D: There is positive evidence of human fetal risk, but the benefits from use in pregnant women may be acceptable despite the risk (e.g., if the drug is needed in a life-threatening situation, or for a serious disease for which safer drugs cannot be used or are ineffective).

Category X: Studies in animals or human beings have demonstrated fetal abnormalities or there is evidence of fetal risk based on human experience or both, and the risk of the use of the drug in pregnant women clearly outweighs any possible benefit. The drug is contraindicated in women who are or may become pregnant.

21 C.F.R. § 201.57(f)(6) (1988).

68. For nonprescription drugs the FDA has also taken action to deal with the possibility that these drugs may have adverse effects on the developing fetus. In 1982, the FDA issued a regulation requiring the labeling for nonprescription drugs to include a precautionary statement concerning use in pregnancy. 21 C.F.R. § 201.63 (1988). When there is evidence that use of a particular drug may pose a risk of reproductive toxicity, the agency has required more specific warning statements. For example, the tentative final monograph for laxative products provides for a warning against use of mineral oil laxatives by pregnant women because that ingredient may interfere with absorption of Vitamin K in pregnant women and predispose newborn children to hemorrhagic disease. 50 Fed. Reg. 2134, 2154 (Jan. 15, 1985).

69. The list of the top 100 products was taken from the *AMERICAN DRUGGIST* (Apr. 1988).

70. For most products, labeling was reviewed as printed in the *PHYSICIAN'S DESK REFERENCE*. For the balance of products, labeling was located in local pharmacies.

either labeled as category C (thirty-three products), or were not letter-coded but included a minimal statement very similar to that of category C regarding fetal risk (twenty-two products). That statement usually read, "Safety for use in pregnancy has not been established. This drug should be given only if the potential benefit outweighs the potential harm to the fetus."⁷¹ These fifty-five products are of particular interest both because of their frequent use and because of the ambiguity in their fetal risk labeling.

TABLE 1

Fetal Risk Expressed in Drug Product Labeling
100 most Frequently Prescribed Products (1987)

<u>Type of Information</u>	<u>Number of Products</u>
Letter-coded	
A	1
B	13
C	33
D	1
X	11
Not letter-coded	
no information	9
minimal information	22
extensive information	<u>10</u>
	100

Ambiguous warnings that disclose no hard data about fetal risk but which admonish that this risk should be balanced against the benefit prior to use place the decisionmaker in a quandary. How can the uncertainty of fetal risk be balanced against the certainty of maternal benefit? The only completely safe decision is to not use the drug. If this is the correct choice, then pregnant women would be denied the benefit of seventy-six of the top 100 drug products (twenty-one known or suspected teratogens plus fifty-five uncertainties). Ac-

71. This exact language appeared in several labels. Others were very similar.

tually this is not quite correct. Since teratogenic drugs usually act early in pregnancy, oftentimes before the pregnancy is confirmed, any woman who *may* be pregnant would be denied these drugs. Theoretically this could mean any fertile and sexually active female. The burden of scientific uncertainty for the fifty-five ambiguously labeled drugs would be borne by these women in the form of foregone therapeutic benefit. A less conservative approach than a decision not to use the drugs would impose a comparable burden on the woman, who could be responsible for having caused a birth defect should one occur.

The inadequacies of existing drug labeling for fetal risk undoubtedly parallel the difficulties experienced by those whose job it is to test for fetal risk. Unfortunately, the response to this problem currently is to label inadequately tested products with a caution that serves no useful purpose. Making decisions based on known risk is difficult enough; good decisions based on unexplained uncertainty are impossible.

III. TERATOGENICITY LITIGATION

A. *The Manufacturer as Defendant*

Drug product liability is an active area of litigation in which there have been a large number of cases alleging that a manufacturer should be liable for birth defects suffered by a child born to a woman who used the manufacturer's drug while she was pregnant.⁷² A decade of caselaw has resolved many legal issues but has done little to clarify the proper use of uncertain scientific principles in a process that seeks a certain resolution to a controversy based on limited hard data. The result is that most teratogenicity litigation rests heavily on conflicting expert testimony and on the ability of lawyers to either impeach the opponent's experts or to rehabilitate their own experts.⁷³

72. Most drug product liability cases are brought under a warning defect (failure to warn) theory. A discussion of the general principles of drug product liability is beyond the scope of this article. For a comprehensive discussion see Merrill, *Compensation for Prescription Drug Injuries*, 59 VA. L. REV. 1 (1973); Maedgen & McCall, *A Survey of Law Regarding the Liability of Manufacturers and Sellers of Drug Products and Medical Devices*, 18 ST. MARY'S L. J. 395 (1986).

73. The frustration that may accompany an evaluation of expert testimony in a drug induced birth defect case was evident in the comments of Judge Glasser of the District Court for the Eastern District

One of the earlier opinions to establish the legal parameters of a fetal harm case is *Woodill v. Parke-Davis*.⁷⁴ The parents of a minor child sought to recover damages for injuries suffered *in utero*, the injuries having allegedly been caused by the drug Pitocin.⁷⁵ The issue of primary concern was whether, in an action seeking to hold a defendant strictly liable for failure to warn of a danger attendant to the use of the drug, the plaintiff must allege and prove that the defendant knew or should have known of the danger.⁷⁶ The court held that the imposition of a knowledge requirement is a proper limitation to place on a manufacturer's strict liability in tort predicated upon a failure to warn of a danger inherent in a product. The court rejected the plaintiff's argument that to require knowledge to be alleged and proved infuses negligence principles into strict liability. The court reasoned that the failure-to-warn theory in strict liability is distinguishable from negligence: it is the inadequacy of the warning that is looked to, rather than the conduct of the manufacturer, when establishing strict liability.⁷⁷

The reasoning of *Woodill* was reinforced and updated in *Brown v. Superior Court*.⁷⁸ *Brown* is actually the consolidation of a number of cases, each brought against numerous drug manufacturers which allegedly produced diethylstilbestrol (DES). The plaintiffs alleged that the drug was defective and that they were injured *in utero* when their

of New York in his opinion in *Rubinstein v. Marsh*, Prod. Liab. Rep. ¶ 11,624 (E.D.N.Y. 1987). Judge Glasser said:

To the extent that these witnesses undertook to testify, they did so not as detached scholars in the area of birth malformations motivated by the sole purpose of assisting the fact-finder with an objective evaluation of the relevant data but as partisans. When expert witnesses become partisans, objectivity is sacrificed to the need to win. *Id.*

Judge Glasser also chastised plaintiff's counsel with the following non-comment:

I will refrain from commenting upon the extent to which this litigation may have compounded the emotional trauma caused by the defects with which the twins were born; the extent to which expectations of huge awards may have been encouraged and subsequently dashed; the extent to which energies were devoted to winning a lawsuit perhaps at a cost to other values. *Id.*

The poignancy of the human factor is obvious when a federal judge is moved to make such comments. One cannot help but wonder what the emotional impact must be on a juror deliberating in such a case.

74. *Woodill v. Parke Davis*, 79 Ill. 2d 26, 402 N.E.2d 194 (1980).

75. *Id.* at 29, 402 N.E.2d at 195.

76. *Id.* at 30, 402 N.E.2d at 196.

77. *Id.* at 37-38, 402 N.E.2d at 199-200.

78. *Brown v. Superior Court*, 44 Cal. 3d 1049, 245 Cal. Rptr. 412, 751 P.2d 470 (1988).

mothers ingested it.⁷⁹ The court concluded that a drug manufacturer's liability for a defectively designed drug should not be measured by the standards of strict liability.⁸⁰ Furthermore, the court rejected the plaintiff's assertion that a drug manufacturer should be held strictly liable for failure to warn of risks inherent in a drug even though it did not know and could not have known, by the application of scientific knowledge available at the time of distribution, that the drug could produce the undesirable side effects suffered by the plaintiff.⁸¹ In essence, this approach relieves the drug manufacturer of the burden of the scientific uncertainty that accompanies the distribution of an as yet undocumented teratogen. The approach makes good sense if the alternative would place the manufacturer in the position of a virtual insurer of the product, serving as a barrier to research and development of beneficial drugs. But if the manufacturer does not bear the burden of uncertainty, then that burden must shift to the physician and patient.

The legal requisites of an action against a manufacturer for damages suffered *in utero* are established by *Woodill* and *Brown* and other similar cases. Within these parameters, expert testimony is relied upon to determine whether the defendant's drug caused the plaintiff's birth defect and to determine the reasonable expectations of the manufacturer in developing and marketing its product. Since most of this testimony rests on inconclusive data, opinions can vary greatly.⁸²

79. *Id.* at —, 245 Cal. Rptr. at 414, 751 P.2d at 473.

80. Design defect contemplates that a safer alternative design is possible, such as a less harmful drug that is equally or more effective. The court noted that a drug might be made safer if it is withheld from the market until scientific skill and knowledge advance to the point where additional dangerous side effects are revealed. However, in most cases such a delay in marketing new drugs would not serve the public welfare. Public policy favors the development of beneficial new drugs, even though some risks might accompany their introduction, because drugs can save lives and reduce pain and suffering. *Id.* at —, 245 Cal. Rptr. at 419, 751 P.2d at 479.

81. Prior to *Brown*, the classic case considering the appropriateness of applying strict liability to manufacturers was *Feldman v. Lederle Laboratories*, 97 N.J. 429, 479 A.2d 374 (1984). The court examined a line of cases indicating that when the essential nature of a transaction involves a service rather than a product, public policy may dictate, in view of the status of the provider, that the general welfare is served better by inapplicability of the strict liability doctrine. The court noted that drug manufacturers do not fall within the policy exceptions expressed in the line of cases it examined. Therefore, the court found no justification for giving all prescription drug manufacturers a blanket immunity from strict liability claims. However, the court permitted the use of the state-of-the-art defense, wherein the defendant is held liable only regarding what it knew or should have known.

82. See Gleeson, *Exclusion of Animal Data as Evidence of Chemically-Induced Disease*, 29(10) FOR THE DEFENSE 25 (Oct. 1987).

The ongoing Bendectin⁸³ litigation is an example of the difficulties courts may have with expert testimony regarding teratogenicity. In *Oxendine v. Merrell Dow*,⁸⁴ the critical issue was the sufficiency of the evidence used by the plaintiff's expert in concluding that Bendectin caused the plaintiff's birth defects. The expert testified⁸⁵ that he considered four kinds of evidence: (1) structure-activity information,⁸⁶ (2) *in vivo* studies,⁸⁷ (3) *in vitro* studies,⁸⁸ and (4) epidemiological studies.⁸⁹ He could not say that any of these four types of evidence individually demonstrated that Bendectin causes birth defects. But he testified that, collectively, the studies show Bendectin to be a teratogen, and the jury held for the plaintiff based on this testimony.⁹⁰ Apparently thinking that four nothings cannot add up to something, the trial judge entered a judgment notwithstanding the verdict, which was reversed on appeal with directions to reinstate the verdict.⁹¹ Subsequently, a new trial was ordered by a different trial judge based on alleged perjury of the expert.⁹²

83. Bendectin, as originally designed, was a combination of three components: dicyclomine hydrochloride, doxylamine succinate, and pyridoxine (Vitamin B6). This combination was approved by the FDA in 1956 for use in alleviating morning sickness in pregnancy. In 1976, the combination was altered to omit dicyclomine hydrochloride. There have been numerous cases in which it has been alleged that Bendectin causes human birth defects. In 1983, in the face of a host of lawsuits, the manufacturer withdrew Bendectin from the market because of the cost of defending the lawsuits. More than anything else, the Bendectin story is one of regulatory failure. This is a product that is necessary therapy for pregnant women whose nausea prevents consumption of foods necessary for both maternal and fetal nutrition, but it was being overused by women who could have done without it and who did not know that complete safety is impossible to prove. Regulatory action to restrict use of the drug and to expand warnings of the uncertainty surrounding the drug's fetal toxicity might have kept it on the market so that it could still be used by those who need it. See Comment, *Drugs During Pregnancy: Dangerous Business—The Continued Movement to Provide Adequate Warning for the Consumer*, 62 NEB. L. REV. 526 (1983).

84. *Oxendine v. Merrell Dow*, 506 A.2d 1100 (App. D.C. 1986).

85. *Id.* at 1104.

86. This involves the examination of a chemical compound's physical structure and a prediction of what kind of activity that compound will have, based on knowledge of the structure and activity of similar compounds.

87. These are animal studies. See *supra* note 62 and accompanying text.

88. Literally this means "in glass." Such studies permit a scientist to separate specific tissue from the rest of an embryo, place it in a test tube, and observe it to determine whether its development is thwarted by the drug.

89. These are human studies. See *supra* note 64 and accompanying text.

90. *Oxendine*, 506 A.2d at 1110 (App. D.C. 1986).

91. The appellate court noted that the four types of evidence "showed little or nothing when viewed separately from one another, but they combined to produce a whole that was greater than the sum of its parts. . . ." *Id.*

92. The court aggressively defended its action by describing the nature of the false statements:

Expert testimony was the focal point of another teratogenicity case, *Wells v. Ortho*.⁹³ Two experts indicated that as soon as the first study is done resulting in any information that gives the "hint [of] a possibility"⁹⁴ of a drug causing birth defects, the drug's labeling should be changed to reflect a warning. The plaintiff's verdict and affirmance came as a surprise to the drug distribution community, where traditionally labeling has not been changed based on the hint of a possibility. Generally, a definite relationship between a drug and an adverse effect is required before a labeling change is made.⁹⁵ The *Wells* case suggests that disclosure of possible teratogenicity should be made even before scientific data has been fully evaluated. This approach places a burden on the manufacturer to recognize and convey relevant information even before the significance of the information is understood. It also places the burden of uncertainty largely on the shoulders of the user, who must decide how this uninterpreted information should be factored into a decision to use or not use the drug.

The only reported appellate opinion that has considered liability for isotretinoin induced birth defects is *Felix v. Hoffman-LaRoche*.⁹⁶ That court held that, while the adequacy of a warning is usually a jury question, in this case the warning was adequate as a matter of law.⁹⁷ The court further reasoned that even had the warning been

The court finds that his testimony was so deliberately false that *all* his testimony on behalf of plaintiff is suspect. His lies went so much toward enhancing his status as a witness that he reeks of the hired gun who will say anything that money can buy so long as it is glibly consistent with his prior testimony in other cases. In a proverbial spiral his professional witness status led him to shirk his duties at the Wayne State Medical School. That got him fired (gently, by a forced resignation). The true circumstances of that resignation detracted from his professional witness status, and so he covered it up with lies to maintain his purported status. *Oxendine v. Merrell Dow*, No. 1245-82 Memorandum Order 4 (D.C. Cir. 1988).

93. *Wells v. Ortho Pharmaceutical Corp.*, 615 F. Supp. 262 (N.D. Ga. 1985) *aff'd*, 788 F.2d 741 (11th Cir. 1986). The trial court opinion in this case is fascinating because it was a bench trial in which the judge gave an in-depth description of all the testimony, including his subjective assessment of it.

94. *Wells*, 615 F. Supp. at 276.

95. The circuit court acknowledged that the FDA, faced with the same information as the trial court, had decided that a warning should not be placed on the label. However, the court stated that an FDA determination that a warning is not necessary may be sufficient for federal regulatory purposes but still not be sufficient for state tort law purposes. *Wells*, 788 F.2d at 746.

96. *Felix v. Hoffman-LaRoche*, 513 So. 2d 1319 (Fla. Dist. Ct. App. 1987).

97. The court stated, "It is inconceivable that reasonable persons could disagree as to the adequacy of the warnings in conveying to physicians that the prescription drug, Accutane, is dangerous to pregnant women and should not have been prescribed." *Id.* at 1320.

insufficient, it would not have been the proximate cause of the harm because the prescribing physician was “completely aware” of the teratogenic effects of the drug and would have nevertheless prescribed the drug.⁹⁸

In summary, the manufacturer’s exposure to legal liability for drug induced birth defects relates entirely to the adequacy of drug testing and labeling. The uncertainty of adverse drug effects (including teratogenicity) is recognized under the law through the requirement that the manufacturer must discover only what can be known about its product; therefore, a manufacturer is not charged with knowledge of the unknowable. Requiring that a manufacturer label a product with scientifically uncertain information, as the *Wells* case would seem to require, is probably a liability reducing factor insofar as the manufacturer is concerned. The manufacturer’s logical response to such a requirement would be to create overly broad warnings that serve as compelling defense evidence in litigation alleging inadequate disclosure, but provide little in the way of useful information for the physician and patient. In this regard, a position that appears to be initially favorable to the plaintiff in litigation is in fact the basis for constructing a solid defense and is apparently unfavorable to the patient in therapeutics.

B. The Prescribing Physician as Defendant

Litigation alleging malpractice against physicians for prescribing a drug that has caused a birth defect occurs less frequently than does drug product liability litigation. The key issues in the few reported opinions available for analysis relate to the knowledge of teratogenicity that a physician must possess when a drug is prescribed for a pregnant woman and the requirement that information regarding teratogenicity be disclosed to the patient.⁹⁹ Sub-issues within the area of disclosure

98. *Id.* at 1321.

99. Risk disclosure within the context of drug therapy poses issues distinct from those involving surgery or most other non-drug medical treatments. Since patients usually administer drugs to themselves, they are in the best position to measure the effects of the drugs and to modify or discontinue drug use depending on the perceived outcome. In therapy, each time a patient ingests a drug the patient has made a micro-decision that, for the patient at the time, the benefit of the drug outweighs the risk. Studies have

are the test of materiality for risk disclosure and the identities of parties to whom disclosure must be made (woman or fetus or both).

The case of *Harbeson v. Parke-Davis, Inc.*¹⁰⁰ considers the level of knowledge required of physicians when prescribing drugs and when advising patients regarding the use of drugs during pregnancy. When Dilantin was prescribed for Mrs. Harbeson, none of the doctors knew that the drug could cause fetal hydantoin syndrome (FSH).¹⁰¹ The district court found that a search of the literature would have revealed several articles regarding the correlation of Dilantin and FSH. In addition, there was evidence that the warning in the *Physician's Desk Reference* (PDR)¹⁰² was sufficient to put physicians on notice as to the effect of the drug. The defense queried how a doctor ought to know that he does not know whether there is information that need be disclosed. In response, the circuit court indicated that to justify ignorance of this type of risk would insulate the medical profession beyond what is legally acceptable. In summary, that court held that it was not unreasonable to expect the doctors in this case to discover the risk.¹⁰³

The Harbeson case next considered whether the risks Dilantin posed to the fetus were material. The court applied a two-step test of ma-

shown that patients often are "noncompliant" with prescribed drug therapy. One possible explanation for deviation by patients from the doctor's instructions is that patients are self-regulators with regard to drug therapy. See Conrad, *The Meanings of Medications: Another Look at Compliance*, 20 Soc. Sci. & Med. 29 (1985). To make good decisions about drug choice and drug use, patients must be given adequate information about drugs. See Brushwood and Simonsmeier, *Drug Information for Patients: Duties of the Manufacturer, Pharmacist, Physician, and Hospital*, 7 J. Legal Med. 279 (1986). The special character of drug disclosure information in informed consent cases has been judicially recognized. See Tietz, *Informed Consent in the Prescription Drug Context: The Special Case*, 61 WASH. L. REV. 367 (1986).

100. *Harbeson v. Parke Davis, Inc.*, 746 F.2d 517 (9th Cir. 1984). The state court opinion considering two certified questions is discussed *supra* notes 29 through 39 and accompanying text. That opinion considered whether wrongful life and wrongful birth exist as viable theories of recovery in Washington. The liability issues of this case are discussed in the main opinion. *Id.*

101. See *supra* note 37, and accompanying text.

102. This is a voluntary, commercial publication that reprints approved labeling for drugs that manufacturers wish to have included. See *Niblack v. United States*, 438 F. Supp. 383, 388 (D. Colo. 1977). The *Harbeson* case quotes the following language from the PDR published at the time Dilantin was prescribed for Mrs. Harbeson: "Although evidence of a teratogenic effect in the human has not been established, the use of this drug in pregnancy requires that its potential benefits be weighted against possible hazards to the fetus." *Harbeson*, 746 F.2d at 523. Apparently the court felt that this "notice" triggered a responsibility to conduct a literature search.

103. *Harbeson*, 746 F.2d at 525.

teriality incorporating an objective standard,¹⁰⁴ the first step being to define the existence and nature of the risk and its likelihood of occurrence. The second step is to decide whether the probability of that type of harm is a risk which a reasonable patient would consider in deciding on treatment.¹⁰⁵ The court referred to expert testimony presented at trial and agreed that this testimony satisfied the first step in the materiality test. The court also concluded that a reasonable patient would have considered the risk of teratogenicity in deciding on treatment. Therefore, the appeals court upheld the finding by the district court that the risks posed by Dilantin were material, noting that the goal of risk disclosure is to make the patient an active participant in the decisionmaking process.¹⁰⁶

If a risk is material, then it must be disclosed to the patient. In the unusual case of *Roberts v. Patel*,¹⁰⁷ the court was asked to decide whether the fetus, as well as the mother, is a patient.¹⁰⁸ The facts of this case disclose that, while the natural mother was in labor, the defendant physicians advised that the labor should be temporarily halted by the use of alcohol and other drugs. Allegedly as the result of this treatment, the child suffered permanent spastic quadriplegia. A lawsuit was initiated by the adoptive mother of the child, but the natural mother was not a party to the lawsuit. The defendants moved to dismiss this claim with respect to its informed consent count.¹⁰⁹

The defendants first argued that Illinois law did not recognize the right of a parent to consent to medical treatment on behalf of an

104. *Id.* at 523. The objective standard asks whether a reasonable patient would consider the risk material. It has its origin in the landmark case, *Canterbury v. Spence*, 464 F.2d 772 (D.C. Cir. 1972), *cert. denied*, 409 U.S. 1064 (1972). There may be a trend toward a subjective standard which asks whether this particular patient would consider the risk material. *See Cheung v. Cunningham*, 214 N.J. Super. 649, 520 A.2d 832 (1987); *Arena v. Gingrich*, 84 Or. App. 25, 733 P.2d 75 (1987) *aff'd*, 748 P.2d 547 (1987).

105. *Harbeson*, 746 F.2d at 523.

106. *Id.* at 524. The court referred to Katz, *Informed Consent, A Fairy Tale? Law's Vision*, 39 U. PITT. L. REV. 137 (1977).

107. *Roberts v. Patel*, 620 F. Supp. 323 (N.D. Ill. 1985).

108. *Id.* Other courts have answered this question in the affirmative with little or no rationale. *See, e.g., Vaccaro v. Squibb*, 71 A.D.2d 270, 422 N.Y.S.2d 679 (1979), in which the court held that the doctor owed a duty of care to the mother and to the child. *Id.*

109. *Roberts*, 620 F. Supp. at 324.

unborn fetus. But the court held that a parent may properly give consent for treatment on behalf of her unborn fetus.¹¹⁰

The defendants then argued that the only duty of disclosure owed was to the natural mother, who was not a party to the action.¹¹¹ The court rejected this argument, citing a line of Illinois fetal rights cases, and concluded:

In light of the strong Illinois policy favoring protection of a fetus, and in light of Illinois' recognition of a protectable interest in the fetus in ordinary malpractice claims, even prior to conception, we hold that [the] mother's physicians owed a duty of informed disclosure not only to [the] mother, but to [the child] as well; in this situation the physician had two patients.¹¹²

Obviously, recognizing a duty of disclosure to a fetus is one thing while a realistic way of meeting the duty is an entirely separate matter. In the ensuing discussion, the court indicated that, while there is a duty of disclosure to the fetus, this duty can be met by informing the woman of the risks to the fetus.¹¹³

Thus, when a physician treats a pregnant woman, there are in reality two patients being treated, and both patients may bring an action against the physician based on informed consent. The guide for disclosure is materiality, the presumption being that individuals have a right to determine what shall be done with their bodies. Teratogenicity would appear to be of such a significant character that if teratogenic potential is disclosed to the physician by the manufacturer, it likewise must be disclosed by the physician to the patient. While theoretically possible, it is difficult to imagine a pregnant woman who would not want to consider the possibility of fetal harm when deciding whether or not to use a drug.

110. "This court is at a loss to say who may consent to the treatment of an unborn fetus if not the unborn fetus' parent." *Id.* at 324.

111. *Id.* at 325.

112. *Id.* at 326.

113. The court stated:

The risks coincident with the prescribed treatment flowed primarily to the infant. The physician must have a duty to disclose to his patient risks not only to the mother but to the child as well. In making an informed decision, [the] natural mother was concerned not only about risk of the treatment to her own safety but also to her unborn child. Indeed, the risks to her child may have been paramount in her concerns.

Id.

C. *The Mother as Defendant*

Pregnancy is a unique situation because of the direct and immediate impact the conduct of one party may have on the interests of another. A pregnant woman is in virtually complete control of the *in utero* development of the fetus, which will eventually determine the child's health and welfare. The possibility that negligent behavior by a pregnant woman may harm the fetus has led to a limited volume of litigation where the objective is to determine how far the law will go to punish or compensate for negligent behavior by a pregnant woman who created an unreasonable risk of harm to her fetus. The state may choose to institute criminal proceedings against a woman whose conduct during pregnancy caused harm to the fetus. In 1986, a California woman was charged with willfully omitting to furnish medical services to her child.¹¹⁴ Allegedly, the woman disregarded medical advice to discontinue using amphetamines during pregnancy, to abstain from sexual intercourse, and to seek immediate medical attention if she began to hemorrhage. Her child was born with brain damage and died within two months due to injuries suffered *in utero*.¹¹⁵ Criminal charges were later dismissed against this woman because the intent of the statute is to force payment from fathers who are delinquent in paying support.¹¹⁶ While the constitutional issue comparing the privacy rights of women with the state's interest in protecting the unborn child was not resolved, the judge indicated in *dicta* that he thought the legislature could draft constitutional legislation prohibiting harmful conduct against a viable fetus.¹¹⁷ Although no state has yet enacted such legislation, several commentators have called for it.¹¹⁸

114. See *Woman Charged over Her Conduct in Pregnancy*, N.Y. Times, Oct. 9, 1986, at A22, col. 1. The woman was charged under California Penal Code § 270. The statute provides in relevant part: "If a parent of a minor child willfully omits, without lawful excuse, to furnish necessary clothing, food, shelter or medical attendance, or other remedial care for his or her child, he or she is guilty of a misdemeanor. . . ." CAL. PENAL CODE § 270 (West 1970 & Supp. 1988). The statute further provides that a "child conceived but not yet born is to be deemed an existing person insofar as this section is concerned." *Id.* The prosecutor could not have used California's general child abuse statute, § 273a, because in *Reyes v. Superior Court*, 75 Cal. App. 3d 214, 141 Cal. Rptr. 912 (1977), the court held that § 273a does not explicitly cover fetuses.

115. See N.Y. Times article, *supra* note 114.

116. See, A.B.A. J. 37 (Apr. 1, 1987).

117. *Id.*

118. See Myers, *Abuse and Neglect of the Unborn: Can the State Intervene?*, 23 DUQ. L. REV. 1 (1984); Note, *Maternal Substance Abuse: The Need to Provide Legal Protection for the Fetus*, 60 S. CAL. L. REV. 1209 (1987).

The legal duty of a pregnant woman to her fetus has also been addressed within the context of civil liability where the conflict is between mother and child, rather than between mother and state. The only appellate opinion squarely on point is *Grodin v. Grodin*.¹¹⁹ In this case a child, through his father, appealed a grant of summary judgment dismissing his mother as a defendant in a lawsuit brought by him. The child had developed brown and discolored teeth as the result of his mother's ingestion of the drug tetracycline¹²⁰ during pregnancy. He alleged negligence of his mother in failing to seek proper medical care, failing to request that her physician perform a pregnancy test, and failing to inform her physician that she was taking tetracycline. The trial court granted summary judgment based on parent-child tort immunity.¹²¹

The appellate court recognized that the Michigan Supreme Court had overruled the doctrine of intrafamily immunity in *Plumley v. Klein*.¹²² In that case, the exercise of reasonable parental discretion was retained as an exception to the new rule that a child could sue a parent.¹²³ The *Grodin* court acknowledged that a woman's decision to continue taking drugs during pregnancy is an exercise of her discretion,¹²⁴ but the reasonableness of that exercise of discretion is a fact question. Therefore, the granting of summary judgment for the mother was reversed and the case remanded for a determination of the reasonableness of the alleged negligent conduct. However, the court provided no indication of the parameters for determining the standard of a reasonable pregnant woman.¹²⁵

As a defendant in a civil action brought by a child for damages caused by maternal conduct, the child's mother is held to a standard

119. *Grodin v. Grodin*, 102 Mich. App. 396, 301 N.W.2d 869 (1980).

120. Tetracycline is an antibacterial drug that readily crosses the placenta and may deposit in bone and teeth. Because the drug also concentrates in the skin, it is useful in treating acne. Thus it is used chronically by adolescents who may be fertile and sexually active.

121. See *Grodin*, 102 Mich. App. at 398, 301 N.W.2d at 869. Once considered contrary to sound public policy, courts have begun to permit children to sue their parents, recognizing a "reasonable parent" standard. See, e.g., *Nocktonick v. Nocktonick*, 227 Kan. 758, 611 P.2d 135 (1980); *Stallman v. Youngquist*, 152 Ill. App. 3d 683, 504 N.E.2d 920 (1987).

122. *Plumley v. Klein*, 388 Mich. 1, 199 N.W.2d 169 (1972).

123. A determination that the defendant's conduct was unreasonable takes the action out of this exception in *Plumley*, and parental immunity is not available as a defense. *Id.* at 8, 199 N.W.2d at 173.

124. *Grodin*, 102 Mich. App. at 398, 301 N.W.2d at 870.

125. *Id.* at 401-02, 301 N.W.2d at 871.

similar to that applied to other defendants in negligence cases. In civil liability a "duty" arises as the result of a relationship between individuals which imposes upon one a legal obligation for the benefit of the other.¹²⁶ The nature of the relationship determines the character of the duty, and the special nature of the relationship between woman and fetus will dictate the parameters of the reasonable pregnant woman standard as it develops.

IV. BURDENS AND RESPONSIBILITIES

A. The Pharmaceutical Manufacturer

The uncertainty that accompanies the approval of new drugs as safe and effective is disturbing in the area of teratogenicity. Animal studies are the only available premarketing indicator of human risk, but species-specific characteristics make it impossible to draw absolute conclusions about humans based on animal data alone. If current drug testing requirements appear inadequate, then the obvious answer is to require better research. But reducing the level of uncertainty through changes in research design that may increase the reliability of extrapolations from animal data to man is an unrealistic goal. As appealing as the concept may be, meaningful and less uncertain studies cannot be done. At best, teratogenic hazards shown by animal tests serve as a screen to identify agents for which developmental toxicity may be of primary concern in humans. Positive results of teratogenicity studies in animals simply suggest that the human population should not be exposed to certain agents unless it is therapeutically essential.¹²⁷

On the other hand, one may legitimately question whether manufacturers are meeting their responsibilities in the area of post-marketing surveillance, where changes could be made to improve the quality of available information and thereby reduce the level of uncertainty. Problems currently exist with birth defect monitoring programs, but

126. W. KEETON, PROSSER AND KEETON ON TORTS § 53 (5th ed. 1984).

127. Brown & Fabro, *The Value of Animal Teratogenicity Testing for Predicting Human Risk*, 26 CLIN. OBSTETRICS & GYNECOLOGY 467 (1963).

they can be addressed through improvements in study design.¹²⁸ Pharmaceutical manufacturers can undertake more comprehensive programs to evaluate teratogenic effects in humans. The difficulty in obtaining useful data prior to marketing should increase the responsibility to conduct reliable surveillance once a drug is on the market and to disseminate scientific data in a way that reduces the uncertainty of drug use. Imposing a substantial burden on manufacturers to clarify, through post-marketing studies, the ambiguous implications of pre-marketing tests is consistent with the requirement that marketed drugs be comprehensively studied for safety and efficacy.¹²⁹

If scientific uncertainty cannot be eliminated, then there is a responsibility to share that uncertainty with those whose interests may be affected. Being told what is not known about a drug may be as important as being told what is known. Obviously, however, there must be limits. There must be some scientific basis for the warning of potential teratogenicity; otherwise, every drug could carry a warning based upon a theoretical, but untestable, concern.¹³⁰ Yet the possibility of overwarning must not be used as a license to prevent the acquisition of knowledge by members of society, thereby shielding drug manufacturers from their disclosure responsibility. Likewise, manufacturers

128. Khoury & Holtzman, *On the Ability of Birth Defects Monitoring to Detect New Teratogens*, 126 AM. J. EPIDEMIOLOGY 136 (1987).

129. Recent emphasis on post-marketing surveillance recognizes that no matter how extensive pre-marketing studies may be, some questions about a new drug will always be unanswered. At present the most important post-marketing surveillance program is the spontaneous reporting of drug effects. This program, though valuable, suffers due to the possibility of incomplete information. See generally Sills, Farch, Milstien & Turner, *The Process of Adverse Reaction Reports at FDA*, 20 DRUG INFORMATION 151 (1986). The authors review the implications of the FDA regulation found at 21 C.F.R. § 314.80 (1987). The FDA may request that a manufacturer conduct post-marketing surveillance studies, presumably in return for which the drug is approved by the agency for marketing. See Hagler, Luscombe & Stegfried, *A Primer on Postmarketing Surveillance*, 21 DRUG INFORMATION 67, 107 (1987).

130. The FDA itself has recognized the cost of overwarning, noting:

Labeling is not intended to be a positive treatise of all possible data and information about a drug. It is intended instead to advise about potential hazards and to convey documented statements concerning safety and effectiveness. The act permits labeling statements with respect to safety only if they are supported by scientific evidence. . . .

The Commissioner concludes that drug labeling should include a contraindication only when reasonable evidence exists indicating an association between the drug and a hazard. The Commissioner believes that including theoretical hazards as contraindications in drug labeling would cause that very important section of the labeling to lose its significance.

44 Fed. Reg. 37,434, 37,441, 37,446-47 (1979).

should not be permitted to shift the burden of uncertainty to others through indiscriminate disclosure. The line between overwarning and underwarning is a thin one, and if a mistake is to be made in providing the correct level of information regarding teratogenicity, the better mistake is overdisclosure rather than underdisclosure.

Traditionally, the law has recognized that the duty owed by the drug manufacturer to the patient is to disclose information about drug risks to the physician but not directly to the patient.¹³¹ This "prescription drug rule" has been criticized generally¹³² and specifically with regard to teratogenicity,¹³³ the criticism focusing on the responsibility to protect the patient's right to know about material risks. In an attempt to protect the patient, a comprehensive program of direct-to-patient warnings was adopted by the FDA in 1980 but was later revoked.¹³⁴ Moreover, litigation that would have modified the prescription drug rule has not been warmly received.¹³⁵ The problem of inadequate information is a very real one in the area of teratogenicity, where studies indicate that pregnant women want to know the probability that a drug may have adverse fetal effects, but they are not

131. The phrase "learned intermediary doctrine" was first used to describe this rule in *Sterling Drug, Inc. v. Cornish*, 370 F.2d 82, 85 (8th Cir. 1966), where the court distinguished prescription drugs from what it called "normal consumer items." *Id.* Justification for the learned intermediary doctrine was presented subsequently in other cases. In *Terhune v. A.H. Robins*, 90 Wash. 2d 9, 577 P.2d 975 (1978), the court reasoned that only the physician considers the total health and well-being of the patient. Since the patient places primary reliance upon the physician's judgment, and since the physician decides what facts should be told to the patient, it is reasonable to consider as adequate a warning that is given by the manufacturer to the physician but not directly to the patient.

132. Gilhooley, *Learned Intermediaries, Prescription Drugs, and Patient Information*, 30 St. Louis U.L.J. 633 (1986).

133. See Comment, *Drugs During Pregnancy: Dangerous Business—The Continued Movement to Provide Adequate Warnings for the Consumer*, 62 NEB. L. REV. 526 (1983).

134. Federally mandated patient directed labeling came into being on September 12, 1980, when the FDA published its final regulation announcing its intention to apply the regulations on a trial basis to ten drugs or drug classes. 45 Fed. Reg. 60,754 (1980) (to be codified at 21 C.F.R. 203). The regulations were to become effective 180 days after the publication of final guidelines for the specific drugs or drug classes. On February 19, 1981, President Reagan, by executive order, directed the suspension or postponement of the effective dates of all major rules that had been promulgated in final form, but had not yet become effective. 46 Fed. Reg. 13,193 (1981). On September 7, 1982, the FDA revoked the rule, calling the program "unjustifiable" and expressing the belief that expanding privately sponsored initiatives were preferable to a federal mandate. 47 Fed. Reg. 39,147 (1982) (to be codified at 21 C.F.R. 203).

135. See generally Schwartz, *Consumer Warnings for Oral Contraceptives: A New Exception to the Prescription Drug Rule*, 41 FOOD DRUG COSM. L.J. 241 (1986).

receiving the information.¹³⁶ Under such circumstances, responsible maternal decisionmaking is not possible.

Thus, as the best expert on its own drug, a manufacturer should also be the best source of information. This means not only that the best scientific methods be used to obtain information, but also that the information be conveyed to those who need it to make a decision about drug risks. Information leaflets directed to the consumer would be an effective means of accomplishing this objective. Alternatively, labeling directed to the physician should have a separate section designated as "fetal toxicity information for the patient" in which specific language is used to describe what is known about teratogenicity and what is suspected but not yet confirmed. The physician could use this information to help women understand the risk of drug use to a fetus that they are or may be carrying. The system currently includes a requirement that drugs be better coded for teratogenic potential,¹³⁷ and withholding that information from patients through the "prescription drug rule" serves no useful purpose.

B. *The Prescribing Physician*

A physician's responsibilities in dealing with a woman who is or may be pregnant differ from those in other areas of medicine since considerations arise concerning both the fetus and the woman. Technology has advanced to the point that the fetus can be monitored or even visualized, making it possible to regard the fetus as a separate but dependent patient. In treating both patients, the physician has a responsibility to disclose information about drug risks and benefits, particularly insofar as these risks or benefits may relate to one party but not the other. It is safe to assume that in all but the most unusual circumstances a pregnant woman will make a decision that accounts for the best interests of her fetus. However, when this does not occur, the physician may have a responsibility to intervene to assure that the fetus' best interests have been considered in another way.

136. See generally Woodward, Brackbill, McManus, Doering & Robinson, *Exposure to Drugs With Possible Adverse Effects During Pregnancy & Birth*, 9 BIRTH 165 (1982); See also Y. BRACKBILL, K. McMANUS & L. WOODWARD, *MEDICATION IN MATERNITY: INFANT EXPOSURE & MATERNAL INFORMATION* (1985).

137. See *supra* note 67 and accompanying text.

For those few drugs that are recognized teratogens or fetal toxins, the physician's responsibility would appear to be simply that such drugs should not be prescribed during pregnancy. But there are several complicating factors. Conception does not immediately cause the occurrence of physiological or psychological changes, so a fertile and sexually active woman faces the constant possibility of being pregnant and not knowing it. The physician has the responsibility of helping the patient manage this problem through contraceptive advice and possibly by recommending a waiting period before initiating drug therapy, to either confirm or rule out pregnancy. When a patient contemplates using a drug that is of benefit to her but potentially harmful to the fetus, she has a right to know the character of the risk. This involves not only the simple disclosure of information, but also provision of the opportunity for reflection and assistance with a decision.¹³⁸

A far greater problem is presented by drugs that are suspected but unconfirmed teratogens or fetal toxins. It has been suggested that physicians feel particularly uncomfortable dealing with uncertainty in obstetrics.¹³⁹ Admitting to a patient that the teratogenic risk of a recommended drug is unknown is a difficult admission because it recognizes fallibility. Physicians are unlikely to admit to patients that: (1) they are acting with uncertainty; (2) there are multiple decision strategies under uncertainty, ranging from high risk-averse ones to less risk-averse ones; (3) physicians prefer a strategy that focuses on fetal risk and preventing it; and (4) this strategy may decrease maternal benefit or increase maternal risk.¹⁴⁰ Yet the physician's disclosure responsibility is to assist the patient in understanding the information that is available, limited though it may be. No matter what a pharmaceutical manufacturer may do to increase the availability of information, the manufacturer cannot write a warning directed to each individual patient. Only the physician knows the unique characteristics of the patient's lifestyle and values. It is the physician who can disclose

138. See generally J. KATZ, *THE SILENT WORLD OF DOCTOR AND PATIENT* (1984).

139. Rhoden, *Informed Consent in Obstetrics: Some Special Problems*, 9 W. NEW ENG. L. REV. 67 (1987).

140. *Id.* at 72.

risk-related information and then instruct the patient on the decisionmaking strategies available.

A pregnant woman may make a decision with which her physician disagrees. This will most likely occur when another physician has prescribed a large supply of medication for a woman who then becomes pregnant and continues using the medication contrary to her obstetrician's advice. It could also happen that a woman who is using medication would disregard her physician's advice to avoid pregnancy. Under such circumstances, the physician may attempt to coerce the woman into adopting rational behavior either through counseling (You don't want to do anything that will hurt your baby, do you?) or by eliminating availability of the medication. But patient behavior is not irrational simply because it is contrary to what the physician believes is correct. The physician's responsibility is to inform and assist with a decision; once an informed decision is made by the patient, the physician's responsibility is to treat the patient within the parameters of that decision.

It seems unlikely that a pregnant woman would intentionally ingest a teratogenic drug for the express purpose of harming her fetus or that a pregnant woman would recklessly endanger her fetus by deciding to use a drug that is beneficial to her without considering possible fetal harm. Should it become apparent to a physician that either of these situations existed, there would be a responsibility to the fetus to have a risk-benefit decision made from the fetal perspective. There have been suggestions that child abuse or neglect statutes should apply under such circumstances,¹⁴¹ which would require that the physician make a report to a child welfare agency for appropriate action. An approach of this type, which criminalizes maternal conduct, distorts the physician-patient relationship, resulting in distrust that may harm more fetuses than it helps. A far better approach would be to require physicians to enlist the assistance of another family member (husband, mother, etc.) or a friend who is familiar with the woman's environment and social circumstances. That person could consider the risks

141. Parness, *Crimes Against the Unborn: Protecting and Respecting the Potentiality of Human Life*, 22 HARV. J. ON LEGIS. 97 (1985); M. Shaw, *Should Child Abuse Laws Be Extended to Include Fetal Abuse?*, GENETICS & THE LAW III chap. 22 (A. Milunshky and G. Amas eds. 1987).

and benefits of drug use from the fetal perspective and could either affirm or reject the woman's decision. If the decision were rejected, the woman could be confronted by the physician and the selected decisionmaker with a firm request that the woman's decision be reconsidered. Beyond this rather extreme step, the physician should have no further responsibility.

C. The Pregnant Woman

A pregnant woman has a responsibility to manage her medication use in a way that accounts for the risks and benefits of drugs both to herself and to the fetus she carries. Since fetal harm can directly result from maternal use of drugs, one approach to prenatal duty would be to impose a responsibility upon pregnant women to completely avoid the use of potentially teratogenic drugs. Yet such a duty could be viewed as inconsistent with a woman's constitutionally guaranteed right to make certain intimate decisions regarding reproductive matters.¹⁴²

In *Roe v. Wade*¹⁴³ the Supreme Court determined that a woman's decision to terminate her pregnancy falls within the zone of privacy protected by the Constitution.¹⁴⁴ The Court recognized two state interests as sufficiently compelling to override this constitutional guarantee: protecting the health of the woman and protecting the potentiality of human life as represented by the fetus.¹⁴⁵ The Court concluded that the state's interest in the potentiality of human life becomes compelling only at the point of fetal "viability," after which the fetus can survive independently of the mother's womb.¹⁴⁶ The Court placed this point at approximately the beginning of the third trimester of pregnancy.¹⁴⁷

142. See, e.g., *Griswold v. Connecticut*, 381 U.S. 479 (1965) (statute proscribing married couples from using contraceptives violates right of privacy); *Eisenstadt v. Baird*, 405 U.S. 438 (1972) (single persons' right to use birth control upheld); *Planned Parenthood of Missouri v. Danforth*, 428 U.S. 52 (1976) (statute requiring spousal consent prior to abortion violates woman's right to have an abortion).

143. *Roe v. Wade*, 410 U.S. 113 (1973).

144. *Id.* at 153.

145. *Id.* at 162.

146. *Id.* at 163. The Court also determined that the state's interest in maternal health does not become sufficiently compelling to regulate abortion at all until the end of the first trimester.

147. *Id.*

If a prenatal duty is imposed prior to viability, that duty may appear unconstitutional under the analysis of *Roe v. Wade*.¹⁴⁸ A woman's right to abort and the state's interest in protecting fetal life cannot coexist. But the state's interest in protecting fetal health, as opposed to fetal life, can exist simultaneously with the woman's right to abort. The *Roe* decision extends the right of privacy to a decision by pregnant women not to bear a child. Among other things, this right protects women from having to assume a responsibility which they feel they cannot undertake, but a woman who decides not to abort accepts the responsibility of pregnancy and childbirth. Also, state intervention to protect fetal health prior to viability, when a woman has decided not to abort, may be legitimate under *Roe*. Preventing a woman from causing harm to a fetus she has decided not to abort is distinguishable from requiring a woman to carry the fetus to term against her will. The latter requirement may have a lasting and detrimental impact on the woman while the former preventive action is likely to be beneficial to the woman, assuming that the burden of rearing a healthy child is less than the burden of rearing a child born defective.

A woman's responsibility not to cause harm to a fetus, once she has foregone the exercise of her legal right to terminate the pregnancy, must impose certain limitations on her freedom of action. In deciding whether a woman acted improperly by exposing her fetus to an unreasonable risk of harm, it is necessary to evaluate both the magnitude and probability of harm to the fetus posed by hazard exposure and the magnitude and probability of harm to the woman posed by hazard avoidance. Invariably this analysis will occur after the risk has materialized, so care must be taken not to overemphasize the reality of fetal harm; for when the woman made her decision, the harm was a theoretical probability and not yet a reality. The result of the analysis will be a comparison of the woman's actual behavior with that of the "reasonable pregnant woman" described in *Grodin*.¹⁴⁹

Because the relationship between mother and fetus is unique among interpersonal relationships, the standard for reasonable maternal con-

148. Most teratogenic effects occur during the first trimester. See *supra* notes 54-58 and accompanying text.

149. See *supra* notes 119-125 and accompanying text.

duct requires unique analysis. Cherniak develops a realistic model of maternal liability for prenatal injury, limited entirely to gross negligence.¹⁵⁰ Within this model, for there to be liability a conscious disregard for the welfare of the fetus would have to be proved. Only if it could be shown that the woman knew or should have known that her conduct created a substantial risk of serious harm to the fetus and the cost to her of avoiding the risk was minimal would there be liability. The focus is on the woman's actual or constructive knowledge and on her responsibility to consider the risk to the fetus as well as the risk to herself prior to engaging in risky behavior. Thus the ingestion of potentially teratogenic medication would not be actionable unless the woman knew or should have known that there was the possibility of harm to the fetus and she disregarded that knowledge in deciding to use the drug. A pregnant woman who has considered fetal risk, has used a drug, and has given birth to a defective child has not acted unreasonably unless the risk is so frequent and so severe that it would be clearly deemed unacceptable when compared with the usual and customary behavior of other pregnant women.

V. CONCLUSION

Regulatory policy aimed at reducing fetal exposure to unreasonable teratogenic risk has as its central focus the generation, dissemination, and responsible use of information relating to teratogenicity. Manufacturers generate the information through scientific research and disseminate it through product labeling. Physicians further disseminate the information by interpreting its significance for a particular patient, and they encourage rational decisions by explaining the risks and benefits of drug use for a patient. Pregnant women use the information to weigh the pros and cons of medications, including risks and benefits to the fetus. If a child is born with defects that could have been prevented by better generation, dissemination, or use of information, then liability issues may arise.

Regulatory response to the demonstration of a firm link between isotretinoin and birth defects has been swift and sure, relating pri-

150. Cherniak, *Recovery for Prenatal Injuries: The Right of a Child Against Its Mother*, 10 SUFFOLK U.L. REV. 582, 607 (1976).

marily to the better use of information rather than restrictions on drug availability.¹⁵¹ But for the vast majority of commonly used drugs, information necessary to make a meaningful risk-benefit decision is unavailable.¹⁵² The teratogenicity information required by the FDA to appear in product labeling often is not there.¹⁵³ Labeling that does contain the information is directed to the physician rather than the patient, and it frequently admonishes that risks and benefits to the fetus must be considered, without explaining the nature of the risks.

The child whose life is diminished by adverse drug effects *in utero* has a right of action against those who did not afford the child, through its mother, the opportunity to consider the risks of drug use. Current inadequacies in drug labeling suggest that responsibilities to the fetus that have developed through civil litigation are not being met. By enforcement of existing regulations and by expansion of those regulations to assure dissemination of meaningful information about teratogenicity directly to women who are or may be pregnant, the drug distribution community would collectively meet its responsibility and facilitate appropriate maternal decisions about fetal risk.

151. The manufacturer will pay for contraceptive counseling and pregnancy tests for women of child-bearing age who take the drug. The drug will be sold in limited supplies, in packages of 10 capsules containing a warning to users. Packages will also contain two unique graphics: a drawing of a malformed child and an "avoid pregnancy symbol"—a circle and slanted line superimposed across a silhouette of a pregnant woman. The Wall Street Journal, Sept. 8, 1988, at 10, col. 1.

152. See, *supra* notes 69-71 and accompanying text.

153. *Id.*